



# VIRGINIA DEFENSE FORCE

## COM 100: Basic Communications



# COM 100 Purpose

**Action: Discuss basic VDF communication practices**

**Conditions: Interactive classroom**

**Standard: Be able to understand the basics of VDF communication and the role of communications in operations**

- **\*SILENCE CELLPHONES**
- **\*50/10 TIMEKEEPER**
- **\*SIGN IN FOR CREDIT**
- **\*TESTABLE**
- **\*SAFETY BRIEF**





# Course Objectives

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**At the completion of this period of instruction, you should be familiar with the following:**

- **Explain basic communication mission and operational procedures, radio-telephone practices, and message documentation procedures**
- **Recognize how to operate Statewide Agencies Radio System (STARS) Radio and Organic VDF Handheld Radio(s)**
- **Recite the Phonetic Alphabet and other pertinent terminology**
- **Understand safety precautions associated with communication duties**



# Mission



# VDF COM Mission



## • Introduction

- **An emergency communicator must do his or her part to get every message to its intended recipient, quickly, accurately, and efficiently.**
- **Several factors can affect your ability to do this, including your own operating skills, the communication method used, a variety of noise problems, the skills of the receiving party, the cooperation of others, and adequate resources.**
- **In an emergency, any given message can have huge and often unintended consequences. An unclear message, or one that is modified, delayed, misdelivered, or never delivered at all can have disastrous results.**



# VDF COM Mission



## Mission

- **The TAG has directed that VDF provide security and civil support capabilities per the references and specifically as outlined in the NGCS Playbook. VDF will develop civil support competencies to support related missions assigned by the JFHQ.**



# VDF COM Mission



## Mission Essential Task List (METL).

- (1) Provide the VDF COM Level 1-qualified Soldiers.**
- (2) Ensure Soldiers are properly trained to applicable NGCS Playbook COMM missions and prepared for assignment to a National Guard Support Team (NGST) per the references.**
- (3) Maintain information on VDF expert personnel qualified in select specialties listed in COM Level 2, as described below, in order to augment the VANG capabilities.**
- (4) Train to proficiency for protecting people and property across the Commonwealth of Virginia during man-made and natural disasters.**



# VDF COM Mission



**General Communications Support. The TAG has directed that VDF further provide general Communications capabilities as outlined in the NGCS Playbook to support the VANG, including:**

- (1) STARS Radios**
- (2) Provide IMAR Teams.\***
- (3) Provide HFRR Teams.\***
- (4) Provide MCP Resource Teams.\***
- (5) HF Teams supporting the VDEM and JOC Radio Rooms;**
- (6) Joint Incident Site Communications Capability (JISCC) system support**

**\*These Teams can be combined and a hand-held STARS radio added for more robust support.**





# Radio & Equipment



# Radio & Equipment





# Radio & Equipment

## ICOM IC700





# Radio & Equipment



## TACPAK

### Overview of TACPAK Inventory

- **Power Management**
- **Computer WLAN and WiFi**
- **Printer / Scanner**
- **GPS / Video / Camera**
- **Telephony: Terr. & Sat.**
- **Skype and PolyCom**



## MOBILE COMMUNICATION PLATFORM RESOURCE (MCPR)

### **CAPABILITY:**

- Establish communication links required for Force Packages
- Communication with JTF/JEOC /VEOC for tasking needs and mission status
- Capable of stand alone operations for 72 hours
- Provide ground to air communications as required

### **TIME STANDARDS:**

**Muster: 12 hours**

**Deploy: 14 hours**

### **TYPE STANDARDS:**

**Military: Team**

**NIMS Type: Strike Team**

### **COMPONENTS:**

1 x WO (OIC)  
 1 X E-6/E-7 (NCOIC, Operator)  
 3 x E-4/E-6 (Operators)  
 2 x E-4/E-6 (Drivers/Security/Operator)  
 1 x 4 X 4 Heavy Duty Vehicle w/radio  
 1 x 25 Ft enclosed self-contained HF/VHF, communications trailer with on-board generator  
 1 x SAD Cell phone  
 1 x TAC PAK  
 1 x STARS Handheld radio

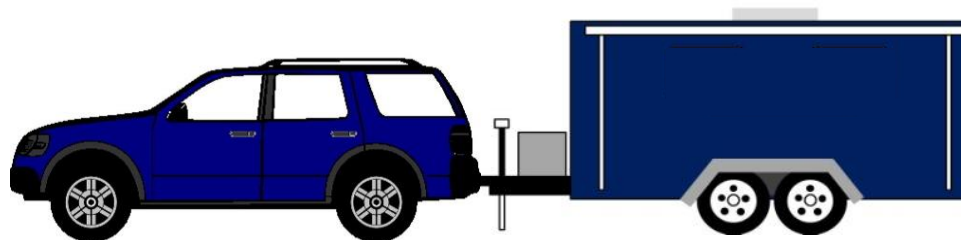
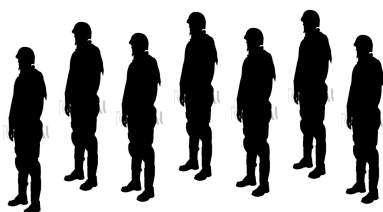
### **COMMUNICATIONS:**

**P: SAD Cell**

**A: Email**

**C: STARS**

**E: HF**



Total PAX: 7	COST PER DAY:	PERSONNEL: <b>\$2,136</b>	EQUIPMENT: <b>\$0</b>	TOTAL: <b>\$2,136</b>
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## MOBILE COMMUNICATION PLATFORM STRIKE TEAM (MCPR)



## INCIDENT MANAGEMENT ASSISTANCE RESOURCE (IMAR)

### **CAPABILITY:**

**Provide communications assistance to deployed elements as directed**

### **TIME STANDARDS:**

**Muster: 12 hours**

**Deploy: 14 hours**

### **TYPE STANDARDS:**

**Military: Team**

**NIMS Type: Single Resource**

### **COMPONENTS:**

**1 x O1-03 or WO1-WO4 (OIC)**

**2 x E3-E6 (Comms)**

**1 x SAD Cell Phone**

**1 x TAC PAK**

**1 x STARS handheld Radio**

### **COMMUNICATIONS:**

**P: E-Mail**

**A: SAD Cell Phone**

**C: STARS Radio**

**E:**



**Total PAX: 3**

**COST PER DAY:**

**PERSONNEL: \$934**

**EQUIPMENT: \$0**

**TOTAL: \$934**

## INCIDENT MANAGEMENT ASSISTANCE RESOURCE (IMAR)

## STATE AGENCIES RADIO SYSTEM RESOURCE (STARSR)

### **CAPABILITY:**

**STARSR team to support to DMA console sites , or  
Base Stations, when requested**

### **TIME STANDARDS:**

**Muster: 12 hours**

**Deploy: 14 hours**

### **TYPE STANDARDS:**

**Military: Team**

**NIMS Type: Single  
Resource**

### **COMPONENTS:**

**1 x 01-04 or WO1-WO4 (OIC)**

**2 x E-3/E-6 (Console operators)**

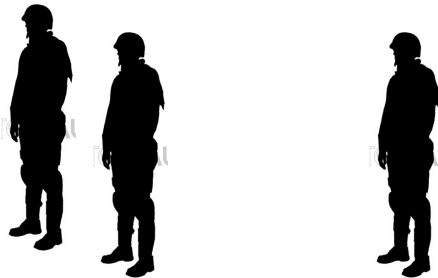
### **COMMUNICATIONS:**

**P: STARSR Radio**

**A: Landline**

**C: SAD Cell Phone**

**E: E-Mail**



**Total PAX: 3**

**COST PER DAY:**

**PERSONNEL: \$983**

**EQUIPMENT: \$0**

**TOTAL: \$983**

## STATE AGENCIES RADIO SYSTEM STRIKE TEAM (STARSR)

## HF RADIO RESOURCE (HFRR)

### **CAPABILITY:**

- Receive and transmit reports to/from JEOC/JTF
- Keep Armory OIC/NCOIC updated on situation
- Provide HF radio communications

### **TIME STANDARDS:**

**Muster: 12 hours**

**Deploy: 14 hours**

### **TYPE STANDARDS:**

**Military: Team**

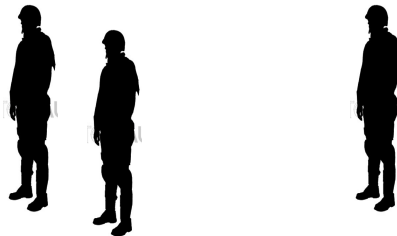
**NIMS Type: Single Resource**

### **COMPONENTS:**

**1 x O1-03 or WO1-WO4 (OIC)**  
**2 x E-3/E-6 (Communication)**  
**1 x HF Radio System w/ NVIS**  
**1 x SAD Cell Phone**

### **COMMUNICATIONS:**

**P: HF Radio**  
**A: Landline**  
**C: E-Mail**  
**E: SAD Cell Phone**



**Total PAX: 3**

**COST PER DAY:**

**PERSONNEL: \$934**

**EQUIPMENT: \$0**

**TOTAL: \$934**

## HF RADIO RESOURCE (HFRR)





# **Basic Communication Skills**



# Basic Communication Skills



- **Listening**

- **Listening is at least 50 percent of communication.**
- **Discipline yourself to focus on your job and “tune out” distractions.**

- **Speaking/Microphone Techniques**

- **For optimum performance, hold the mic close to your cheek, and just off to the side of your mouth.**
- **Talk across, rather than into, the microphone.**
- **Speak in a normal, clear, calm voice.**
- **Pause a little longer than usual between transmissions any time there is a possibility that other stations may have emergency traffic to pass. A count of “one, one thousand” is usually sufficient.**



# Basic Communication Skills



- **Brevity and Clarity**

- **Each communication should consist of only the information necessary to get the message across clearly and accurately.**
- **Make your transmissions sound crisp and professional.**
- **Be sure to say exactly what you mean.**



# Basic Communication Skills



- **Brevity and Clarity**
  - ***Communicate one complete subject at a time.***
  - **Mixing different subjects into one message can cause misunderstandings and confusion.**
  - **For example, if you are sending a list of additional food supplies needed, keep it separate from a message asking for more sandbags. Chances are that the two requests will have to be forwarded to different locations. If they are combined, one request will be lost.**



# Basic Communication Skills



- **Plain Language**
- **As radio operators, we use a great deal of jargon (technical slang) and specialized terminology in our daily conversations. Most of us understand each other when we do, and if we do not on occasion it usually makes little difference. In an emergency, however, the results can be much different. A misunderstood message could cost someone's life.**
- **Not everyone involved in an emergency communication situation will understand our slang and technical jargon. Even terms used by radio operators vary from one region to another, and new radio operators will have no knowledge of most of our terminology. Radio operators assisting from another region might understand certain jargon very differently from local ones.**



# Basic Communication Skills



- **Plain Language**
- **For these reasons, all messages and communications during an emergency should be in plain language. "Q" signals, 10 codes, and similar jargon should be avoided. The one exception to this is the list of standard "prowords" (often called "prosigns") used in amateur traffic nets, such as "clear," "say again all after," and so on.**
- **Avoid words or phrases that carry strong emotions. Most emergency situations are emotionally charged already, and you do not need to add to the problem. For instance, instead of saying, "horrific damage and people torn to bits," you might say "significant physical damage and serious personal injuries."**
- **And please watch the speed at which you speak. It should be at a normal rate. Many times, emergency operators get too excited and talk very fast, making it hard for receiving stations to understand them.**



# Phonetics & Prowords



# Phonetics & Prowords

- **Phonetics**

- Several different phonetic alphabets are in common use, but most radio operators and public safety agencies use the **ITU Phonetic Alphabet**, shown below, and others use military alphabets.
- Many radio operators like to make up their own phonetics, especially as a memory aid for call signs, and often with humorous results. ***This practice has no place in emergency communications.***
- In poor conditions, unusual phonetic words might also be misunderstood. We need to be sure that what we say is always interpreted exactly as intended — this is why most professional communicators use standardized phonetics.





# Phonetics & Prowords



ITU Phonetic Alphabet	Numbers
A — alpha (AL-fa) B — bravo (BRAH-voh) C — charlie (CHAR-lee) D — delta (DELL-tah) E — echo (ECK-oh) F — foxtrot (FOKS-trot) G — golf (GOLF) H — hotel (HOH-tell) I — india (IN-dee-ah) J — juliet (JU-lee-ett) K — kilo (KEY-loh) L — lima (LEE-mah) M — mike (MIKE) N — november (no-VEM-ber) O — oscar (OSS-cah) P — papa (PAH-PAH) Q — quebec (kay-BECK) R — romeo (ROW-me-oh) S — sierra (SEE-air-rah) T — tango (TANG-go) U — uniform (YOU-ni-form) V — victor (VIK-tor) W — whiskey (WISS-key) X — x-ray (ECKS-ray) Y — yankee (YANG-key) Z — zulu (ZOO-loo)	<p>Numbers are somewhat easier to understand. Most can be made clearer by simply “over-enunciating” them.</p> <p><b>Phonetics</b></p> <p>One: “Wun” Two: “TOOO” Three: “THUH-ree” Four: “FOH-wer” Five: “FY-ive” Six: “Sicks” Seven: “SEV-vin” Eight: “Ate” Nine: “NINE-er” Zero: “ZEE-row”</p> <p>Numbers are always pronounced individually. The number “60” is spoken as “six zero”, not “sixty.” The number “509” is spoken as “five zero nine,” and not as “five hundred nine” or “five oh nine.”</p>



# Phonetics & Prowords



- **Prowords**

- **Prowords, called “prosigns” when sent in Morse code or digital modes, are procedural terms with specific meanings (“pro” is short for “procedural”).**
- **They are used to save time and ensure that everyone understands precisely what is being said.**
- **Some prowords are used in general communication, others while sending and receiving formal messages.**
- **The usage and meaning of some prowords in other services, such as police, fire, or military, may differ from Amateur Radio usage. are some prowords and prosigns in common usage in Amateur Radio communications:**



# Phonetics & Prowords



Voice	Morse	Meaning and Digital Function
Clear	SK*	End of contact; end of communication. In CW, SK is sent before final identification.
Over	KN*	Used to let a specific station know to respond.
Go ahead	K	Used to indicate that any station may respond.
Out	CL*	End of contact; end of communication, no reply expected.
Stand by	AS*	A temporary interruption of the contact.
Roger	R	Indicates that a transmission has been received correctly and in full.



# Phonetics & Prowords



- **ARMY STUDY GUIDE**

- **PROWORDS**

- To keep voice transmission as short and clear as possible, radio operators use procedure words (**PROWORDS**) to take the place of long sentences.
- The **PROWORDS** and their meanings are listed on the following pages.



# Phonetics & Prowords



PROWORD	Explanation
ALL AFTER	The portion of the message to which I have reference is all that which follows _____.
ALL BEFORE	The portion of the message to which I have reference is all that which precedes _____.
AUTHENTICATE	The station called is to reply to the challenge which follows
AUTHENTICATION IS	The transmission authentication of this message is _____.
BREAK	I hereby indicate the separation of the text from other portions of the message.
BROADCAST YOUR NET	Link the two nets under your control for automatic rebroadcast.
CALL SIGN	The group that follows is a call sign.
CORRECT	You are correct, or what you have transmitted is correct.



# Phonetics & Prowords



CORRECT	You are correct, or what you have transmitted is correct.
CORRECTION	An error has been made in this transmission. Transmission will continue with the last word correctly transmitted.
	An error has been made in this transmission (or message indicated). The correct version is _____.
	That which follows is a corrected version in answer to your request for verification.
DISREGARD THIS TRANSMISSION — OUT	This transmission is in error. Disregard it. This PROWORD shall not be used to cancel any message that has been completely transmitted and for which receipt or acknowledgement has been received.
DO NOT ANSWER	Stations called are not to answer this call, receipt for this message, or otherwise to transmit in connection with this transmission. When this PROWORD is employed, the transmission shall be ended with the PROWORD "OUT".
EXECUTE	Carry out the purpose of the message or signal to which this applies. To be used only with the executive mode.



# Phonetics & Prowords



EXECUTE TO FOLLOW	Action on the message or signal which follows is to be carried out upon receipt of the PROWORD "EXECUTE". To be used only with the delayed executive method.	IX
EXEMPT	The addressees immediately following are exempted from the collective call.	XMT
FIGURES	Numerals or numbers follow.	
FLASH	Precedence FLASH	Z
FROM	The originator of this message is indicated by the address designator immediately following.	FM
GROUPS	This message contains the number of groups indicated by the numeral following.	GR
GROUP NO COUNT	The groups in this message have not been counted.	GRNC
I AUTHENTICATE	The group that follows is the reply to your challenge to authenticate.	
IMMEDIATE	Precedence IMMEDIATE.	O
IMMEDIATE EXECUTE	Action on the message or signal following is to be carried out on receipt of the word EXECUTE. To be used only with the Immediate Executive Method.	$\overline{\text{IX}}$
INFO	The addresses immediately following are addressed for information.	INFO



# Phonetics & Prowords



I READ BACK	The following is my response to your instructions to read back.
I SAY AGAIN	I am repeating transmission or portion indicated.
I SPELL	I shall spell the next word phonetically
I VERIFY	That which follows has been verified at your request and is repeated. To be used only as a reply to VERIFY.
MESSAGE	A message which requires recording is about to follow. Transmitted immediately after the call. (This PROWORD is not used on nets primarily employed for conveying messages. It is intended for use when messages are passed on tactical or reporting nets.)
MORE TO FOLLOW	Transmitting station has additional traffic for the receiving station.
NET NOW	All stations are to net their radios on the unmodulated carrier wave which I am about to transmit.
NUMBER	Station Serial Number
OUT	This is the end of my transmission to you and no answer is required or expected.





# Phonetics & Prowords



OVER	This is the end of my transmission to you and a response is necessary. Go ahead, transmit
PRIORITY	Precedence PRIORITY
READ BACK	Repeat this entire transmission back to me exactly as received.
RELAY (TO)	Transmit this message to all addressees (or addressees immediately following this PROWORD). The address component is mandatory when this PROWORD is used.
ROGER	I have received your last transmission satisfactorily.
ROUTINE	Precedence ROUTINE
SAY AGAIN	Repeat all of your last transmission. Followed by identification data means "Repeat _____ (portion indicated)".
SERVICE	The message that follows is a SERVICE message.
SIGNALS	The groups which follow are taken from a signal book. (This PROWORD is not used on nets primarily employed for conveying signals. It is intended for use when tactical signals are passed on non-technical nets).



# Phonetics & Prowords



SILENCE (Repeated three or more times)	Cease transmission on this net immediately. Silence will be maintained until lifted. (When an authentication system is in force, the transmission imposing silence is to be authenticated).
SILENCE LIFTED	Silence is lifted. (When an authentication system is in force, the transmission lifting silence is to be authenticated).
SPEAK SLOWER	Your transmission is at too fast a speed. Reduce speed of transmission.
STOP REBROADCASTING	Cut the automatic link between the two nets that are being rebroadcast and revert to normal working.
THIS IS	This transmission is from the station whose designator immediately follows.
TIME	That which immediately follows is the time or date time-time group of the message.
TO	The addressees immediately following are addressed for action.
UNKNOWN STATION	The identity of the station with whom I am attempting to establish communication is unknown.
VERIFY	Verify entire message (or portion indicated) with the originator and send the correct version. To be used only at the discretion of or by the addressees to which the questioned message was directed.



# Phonetics & Prowords



WAIT	I must pause for a few seconds
WAIT — OUT	I must pause longer than a few seconds.
WILCO	I have received your signal, understand it, and will comply. To be used only by the addressee. Since the meaning of ROGER is included in that of WILCO, the two PROWORDS are never used together.
WORD AFTER	The word of the message to which I have reference is that which follows _____.
WORD BEFORE	The word of the message to which I have reference is that precedes _____.
WORDS TWICE	Communication is difficult. Transmit (transmitting) each phrase (or each code group) twice. This PROWORD may be used as an order, request, or as information.
WRONG	your last transmission was incorrect. The correct version is _____.



# **Risk Management & Safety**



# Risk Management & Safety



- VDF soldiers are required to respond to numerous types of domestic emergencies.
- While operating at the scene of natural disasters involving hurricanes, tornados, floods, or operating at other types of incidents, VDF soldiers may come into contact with numerous hazards that can cause injury and/or death.
- This training is intended to provide basic situational awareness to VDF soldiers to help them recognize these dangers and thereby minimize exposure to these hazards.



# Risk Management & Safety



## RISK MANAGEMENT PROCESS

**Step 1 - Identify the hazards**

**Step 2 - Assess the hazards**

**Step 3 - Develop Controls and make risk decision**

**Step 4 - Implement controls**

**Step 5 - Supervise and evaluate**





# **Risk Management & Safety**



## **RISK MANAGEMENT PRINCIPLES**

- 1. Integrate risk management into mission planning, preparation, and execution.**
- 2. Make risk decisions at the appropriate level in the chain-of-command.**
- 3. Accept no unnecessary risk.**



# Risk Management & Safety



## TERMS AND DEFINITIONS

**RISK ASSESSMENT**- Risk assessment is the identification and assessment of hazards (the first 2 steps of risk management process).

**HAZARD**- Any actual or potential condition that can cause injury, illness, or death of personnel; damage to or loss of equipment or property; or mission degradation.





# Risk Management & Safety



## TERMS AND DEFINITIONS

**RISK** The probability of exposure to injury or loss from hazard. Risk level is expressed in terms of hazard probability and severity. Two kinds of risk:

- **Tactical risk** - Risk associated with hazards that exist because of the presence of the enemy or an adversary.

- **Accident risk** - Includes all operational risk considerations other than tactical risk, and can include activities associated with hazards concerning friendly personnel, equipment, readiness, and environmental conditions.



# Risk Management & Safety



## TERMS AND DEFINITIONS

**PROBABILITY-** The likelihood that an event will occur.

**There are five degrees of probability:**

**Frequent   Likely   Occasional   Seldom   Unlikely**

**SEVERITY-** The degree of injury, property damage, or other mission impairing factors.

**There are four degrees of severity.**

**Catastrophic   Critical   Marginal   Negligible**



# Risk Management & Safety



## DETERMINE THE DEGREE OF PROBABILITY

**PROBABILITY** - The likelihood that an event will occur. Determine what is the chance or likelihood of the event occurring? There are five degrees of probability:

- **Frequent** - Occurs often, continuously experienced.
- **Likely** - Occurs several times.
- **Occasional** - Occurs sporadically.
- **Seldom** - Remotely possible: could occur at some time.
- **Unlikely** - Can assume it will not occur, but not impossible.



# Risk Management & Safety



## DETERMINE THE DEGREE OF SEVERITY

**SEVERITY**- The degree of injury, property damage, or other mission impairing factors. There are four degrees of severity.

- ***Catastrophic*** - Loss of ability to accomplish the mission or mission failure. Death or permanent total disability, system loss, or major property damage.
- ***Critical*** - Significantly degraded mission capability or unit readiness. Permanent partial disability, temporary total disability in excess of three months, major system damage, or significant property damage.
- ***Marginal*** - Degraded mission capability or unit readiness. Minor injury, lost workday accident, minor system damage, and minor property damage.
- ***Negligible*** - Little or no adverse impact on mission capability. First aid or minor medical treatment, minor system impairment.



# Risk Management & Safety



## TERMS AND DEFINITIONS

**RISK LEVEL**- Expressed in terms of hazard probability and severity. There are four levels of risk.

- **Extremely High Risk (E)** - Loss of ability to accomplish the mission.
- **High (H)** - Significantly degrades mission capabilities in terms of required mission standards.
- **Moderate (M)** - Degrades mission capabilities in terms of required mission standards.
- **Low (L)** – Little to no impact on accomplishment of mission.



# Risk Management & Safety



## TERMS AND DEFINITIONS

**CONTROLS**- Controls are actions taken to eliminate the hazard or reduce their risk. Controls may take many forms, but fall basically into three categories:

- **Educational Controls** - These controls are based on the knowledge and skills of the units and soldiers.
- **Physical Controls** - These controls may take the form of barriers and guards or signs to warn individuals and units that a hazard exists.
- **Avoidance** - The control is applied by taking positive action to eliminate the presence of an identified hazard.



# **TERMS AND DEFINITIONS**

**RESIDUAL RISK**- Residual risk is the level of risk remaining after controls have been selected for hazards (Controls are identified and selected until residual risk is at an acceptable level or it cannot be practically reduced further).

**RISK DECISION**- The decision whether to accept or not to accept the level of residual risk

# RISK MANAGEMENT WORKSHEET

<b>A. Mission or Task</b>		<b>B. Date/Time Group</b> <b>Begin:</b> <b>End:</b>		<b>C. Date Prepared:</b>	
<b>D. Prepared By:</b> (Rank, Last Name, Duty Position)					
<b>E. Task</b>	<b>F. Identify Hazards</b>	<b>G. Assess Hazards</b>	<b>H. Develop Controls</b>	<b>I. Residual Risk</b>	<b>J. Implement Controls</b>
					(How To)
<p style="text-align: center;"><b>K. Overall risk level after controls are implemented</b> (circle one)</p> <p> LOW (L)      MODERATE (M)      HIGH (H)      EXTREMELY HIGH (E) </p>					



## INDIVIDUAL HAZARD RISK ASSESSMENT MATRIX

S E V E R E I T Y		HAZARD PROBABILITY				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

**NOTE:** The matrix can be a useful tool, but is not a replacement for a detailed, careful analysis.

### RISK LEVELS

**E (Extremely High Risk)** - Loss of ability to accomplish the mission.

**H (High Risk)** – Significantly degrades msn capabilities in terms of required msn stds.

**M (Moderate Risk)** - Degrades msn capabilities in terms of required mission stds.

**L (Low Risk)** - Little or no impact on accomplishment of the mission.



# Risk Management & Safety



- 1. Before any erection of an antenna, SURVEY the area for hazards, especially**
  - **Power lines**
  - **Dead trees or any other hazards**
  - **Potential storm activity.**
  
- 2. Power: Last ON, first OFF.**
  - **Connect antennas, grounds, ancillaries and after all that, connect DC power.**
  - **When commo activities cease, DC power is disconnected FIRST.**
  - **NO FRIED RADIOS!!!!**



# Questions?